

REMARKS/ARGUMENTS

1. Claims 1-7, 14-20, and 26-32 are Patentable Over the Cited Art

The Examiner rejected claims 1-7, 14-20, and 26-32 as obvious (35 U.S.C. §103) over Hare (U.S. Patent Pub. No. 2003/1067338) in view of Angel (US Patent Pub. No. 2/004/004789). Applicants traverse with respect to the amended claims.

Claims 1, 14, and 26 concern transmitting packets between a plurality of end user systems and one server, and require: in response to receiving an initial packet from an initiating end user system comprising one of the end user systems in a first connection protocol, communicating with the server using a second connection protocol to establish a network session and obtain a network session identifier; adding an entry to a data structure associating a port of a connection with the initiating end user system and the network session identifier for the server; in response to receiving a data packet from the initiating end user system in the second connection protocol, processing the data structure to determine the network session identifier associated with the port of the connection to the initiating end user system on which the data packet was received; and communicating the data packet from the initiating end user system to the server using the determined network session identifier and using the second connection protocol.

In the prior response, Applicants argued that the cited paras. 22, 31, and 32 of Hare do not disclose the claim requirement of adding an entry to a data structure associating a port of a connection with the initiating end user system, which uses the first connection protocol to communicate, and the network session identifier for the server, which uses the second connection protocol.

In the Final Office Action, the Examiner found that Hare does not disclose the claimed data structure associating port and the network session identifier, and instead cited FIG. 6, Table 1 on pg. 5 as addressing the deficiencies of Hare. (Final Office Action, pgs. 5-6) Applicants traverse.

With respect to the cited FIG. 6, Angel mentions that in a PPPoE client mode 60 (FIG. 6), the aggregator encapsulates the PPP into a PPoE frame and plays the role of the PPoE client. The aggregator takes the source address (SA) from the address pool, and the destination address (DA) is the edge router Ethernet address, and the session ID is given by the edge router. In a

PPoE proxy mode 61, the aggregator terminates the PPOE session from the user and plays the role of PPPoE server to encapsulate the PPP session towards the edge router. The aggregator uses one SA for a tunnel, and the destination address is a number given by the edge router. In PPPoE relay mode 62, the aggregator aggregates multiple PPPoE sessions over a single tunnel without changes in the PPPoE frame. (Angel, pg. 6, paras. 114-122).

In all the above modes, there is no teaching or suggestion of adding an entry to a data structure associating a port of a connection with the initiating end user system, which uses the first connection protocol to communicate, and the network session identifier for the server, which uses the second connection protocol. In the description of the aggregator operations, there is no teaching that the aggregator creates an entry associating a port from the initiating end user, such as the PPP client, with a network session identifier from a server using a different second connection protocol, such as an ISP server.

Further, the above discussed Angel teaches away from associating the port, such as the PPP port, with a network session identifier to communicate with a server using a different protocol, because in the above PPPoE modes, the destination address (DA) is the edge router Ethernet address and the session ID is given by the edge router. There is no teaching or suggestion of associating with a port (e.g., PPP port) a network session ID that is obtained from a server in response to an initial packet from the initiating end user system that uses the first protocol. Instead, the cited modes use the edge router to provide the session ID, not a data structure associating a port with the network session ID for the server to which the packet is directed.

The cited Table 1 of Angel is similarly deficient. The cited Table 1 on pg. 5 shows the information used when forwarding packets with the shown input parameters and the output parameters used for the forwarding. However, Table 1 does not show a data structure maintained to do the forwarding, but instead “details the forwarding”. The discussion of how the information used in the forwarding is discussed above with respect to FIG. 6 and the different modes.

Accordingly, Applicants submit that the cited Angel does not address the recognized deficiencies of Hare because Angel, like Hare, fails to teach or suggest the claim requirements of adding and using an entry to a data structure associating a port of a connection with the initiating end user system, which uses the first connection protocol to communicate, and the network

session identifier for the server, which uses the second connection protocol. Further, there is no teaching that a network session identifier is obtained to communicate with the server in response to receiving an initiating packet from the initiating end user.

The Examiner cited para. 22 of Hare as teaching the claim requirement of in response to receiving an initial packet from an initiating end user system comprising one of the end user systems in a first connection protocol, communicating with the server using a second connection protocol to establish a network session and obtain a network session identifier to communicate with the server using the second connection protocol. Applicants traverse.

The cited para. 22 mentions that a gateway initiates a PPPoE session with an access concentrator as a proxy for a client. The client provides data to the gateway in a format supported by the client and the gateway encapsulates this data into PPPoE compliant frames to send to the access concentrator. The gateway provides a virtual PPPoE session between the client and the access contractor to satisfy the different connection formats of both the access concentrator and the client to allow non-PPPoE enabled clients to communicate with the access concentrator.

Although the cited para. 22 discusses how the gateway provides communication between a non-PPPoE client and a PPPoE client, there is no teaching in the cited para. 22 that the gateway or other component communicates with a server using a second connection protocol to establish a network session and network session identifier in response to an initial packet from an initiating end user system that uses a first connection protocol.

The Examiner cited para. 31 of Hare as teaching the claim requirement of adding an entry to a data structure associating a port of a connection with the initiating end user system and the network session identifier for the server. (Final Office Action, pg. 2).

The cited para. 31 mentions that the access concentrator can generate a unique session ID associated with the client and provide this to the PPP client layer 260, which is in the gateway. This session ID can be associated with each frame processed by the PPP client layer 260 for the client. This unique session ID can be adapted for multiple PPPoE sessions on behalf of multiple client. Each client is given a unique session ID that can be used by the access concentrator and the PPP client layer to determine the source/destination of a frame.

Although the cited para. 31 discusses how the access concentrator generates a unique session ID for a client, there is no disclosure in the cited para. 31 that the gateway or other

component associates a port of the initiating end user system, or client in Hare, with a network session identifier used to communicate with the server using the second connection protocol.

Further, the cited unique session ID of para. 31 is generated by the concentrator to associate with the client to associate with each outgoing frame. This does not teach the claimed network session identifier which is obtained from a server to which the packet from the end user system will be communicated. Instead, the cited unique session ID is generated by the concentrator that transmits the packet to the gateway on behalf of the client.

The cited para. 32 discusses providing a virtual PPPoE session between the client and access concentrator so that the gateway can transmit data between the concentrator and client as discussed above. As with the other cited paragraphs, the cited para. 32 does not teach that the gateway or other component associates a port of the initiating end user system, or client in Hare, with a network session identifier, from the sever, that is used to communicate with the server using the second connection protocol.

Accordingly, amended claims 1, 14, and 26 are patentable over the cited art because the requirements of these claims are not taught or suggested in the cited Hare and Angel, alone or in combination.

Claims 2-7, 14-20, and 27-32 are patentable over the cited art because they depend from one of claims 1, 13, and 26, which are patentable over the cited art for the reasons discussed above. The following dependent claims provide additional grounds of patentability over the cited art.

Claims 3, 16, and 28 depend from claims 1, 14, and 16, respectively, and further require that the data packet comprises a first data packet; in response to receiving a second data packet from the server, determining the network session identifier included with the received second data packet; determining from the data structure the connection to the initiating end user system associated with the determined network session identifier; and transmitting the data packet on the determined connection to initiating end user system.

The Examiner cited paras. 30 and 31 of Hare with respect to these claim requirements. (Final Office Action, pg. 3) Applicants traverse.

The cited para. 30 mentions extracting an IP packet from the PPPoE frame that is then provided to the IP stack, the IP stack, noting the intended destination of the IP packet, routes the revised packet to the bridge, and then the bridge forwards the packet to the client, which

performs any necessary encapsulation and transmits over the Ethernet. The PPPoE header and PPP format data are typically removed from the frame before provided to the client, or can be retained.

Nowhere is there any teaching in the cited para. 30 that a network session identifier is determined from a second data packet from the server, where the network session identifier was initially established by the server, and is used to determine the connection to the initiating end user system associated with the determined network. Instead, the cited para. 30 mentions that the packet is extracted from the PPPoE frame, and that the IP stack notes the intended destination to route. There is no teaching of determining a connection to the initiating end user system associated with a determined network session identifier to use to transmit the packet.

The Examiner further cited the unique session ID of para. 31, which is associated with a client. However, there is no disclosure that this unique session ID comprises a network session ID established by a server in response to an initial packet from the client, or that the client connection is determined from the network session identifier in the second data packet from the server. Instead, the cited para. 31 discusses a unique session ID associated with the client, where this session ID is used to determine the source and destination of a frame.

Accordingly, claims 3, 16, and 28 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Hare and Angel.

Claims 4, 17, and 29 depend from claims 3, 16, and 28, respectively, and further require that the network session identifier is included within a header encapsulating the second data packet from the server, and removing the header and the network session identifier from the second data packet, wherein the extracted second data packet is transmitted on the determined connection.

The Examiner cited the unique session ID in para. 31 as teaching the additional requirements of these claims. (Final Office Action, pg. 4) Applicants traverse.

The cited para. 31 discusses a unique session ID generated by the concentrator to associate with the client, and that can be used by the concentrator to determine the source/destination of a frame. The claims require that the network session ID is provided by a server to which the packet is sent. Further, the Examiner has not cited where para. 31 teaches that the cited unique session ID is included in a header from the second data packet from the

server, which generated the network session ID, and that the unique session ID is extracted from the second data packet. The Examiner has not cited where Hare teaches that the cited unique session ID is operated upon in a similar manner to the claimed network session ID.

Accordingly, claims 4, 17, and 29 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Hare and Angel.

Claims 6, 19, and 31 depend from claims 1, 14, and 26, respectively, and further require that one network session identifier is obtained from the server for each connection to each of the end user systems.

The Examiner cited the above discussed para. 31 of Hare as teaching the additional requirements of these claims. (Final Office Action, pg. 5) Applicants traverse.

As discussed, the cited unique session ID of Hare is generated by the concentrator to associate with the client to associate with each outgoing frame. This does not teach the claimed network session identifier which is obtained from a server to which the packet from the end user system will be communicated. Instead, the cited unique session ID is generated by the concentrator that transmits the packet to the gateway on behalf of the client.

Accordingly, claims 6, 19, and 31 provide additional grounds of patentability over the cited art because the additional requirements of these claims are not disclosed in the cited Hare and Angel.

2. Claims 8-13, 21-25, and 33-38 are Patentable Over the Cited Art

The Examiner rejected claims 8-13, 21-25, and 33-38 as obvious (35 U.S.C. §103) over Hare in view of Angel and further in view of Voit (U.S. Patent Pub. No. 2002/0044567). Applicants traverse with respect to the amended claims.

Claims 8, 21, and 35 concern a protocol manager for transmitting packets between a plurality of end user systems and one server, and require: establish a tunnel using a first connection protocol with the server having a session identifier for the server; in response to receiving an initial packet from an initiating end user system comprising one of the end user systems, in a second connection protocol, communicating authentication messages between the initiating end user system and the server to allow the initiating end user system to authenticate with the server assigning a network address to the end user system in response to the end user

system authenticating with the server, wherein the server uses the network address to communicate with the initiating end user system assigned the network address via the protocol manager; adding an entry to a data structure associating a connection with the initiating end user system and the network address assigned to the initiating end user system; and communicating a data packet from the initiating end user system to the server using the first communication protocol and the session identifier established to communicate with the server.

The Examiner cited FIG. 8 of Voit as teaching the claim requirements of in response to receiving an initial packet from an initiating end user system comprising one of the end user systems, in a second connection protocol, communicating authentication messages between the initiating end user system and the server to allow the initiating end user system to authenticate with the server, and adding an entry to a data structure associating a connection with the initiating end user system and the network address assigned to the initiating end user system;

The cited FIGs. 8a and 8b of Voit mention negotiating a temporary IP address (821) for a customer and that a gateway router configures a routing (813). Nowhere does this teach assigning a network address to the end user system in response to the end user authenticating with the server and adding an entry to a data structure associating a connection with the initiating end user system and the network addresses assigned by the server to communicate with the end user system. There is no teaching of associating a connection to the end user with the network address assigned by the server. Instead, the cited FIG. 8 discusses negotiating a temporary IP address.

The Examiner has not cited where the references teach or suggest that in response to receiving an initial packet from an initiating end user system, the protocol manager communicates authentication messages between the initiating end user system and the server to allow the initiating end user system to authenticate with the server. Further, nowhere do the cited references anywhere teach or suggest that the protocol manager assign a network address to the end user system in response to the end user system authenticating with the server, wherein the server uses the network address to communicate with the initiating end user system assigned the network address via the protocol manager.

Accordingly, amended claims 8, 21, and 33 are patentable over the cited art because the additional requirements of these claims are not disclosed in the cited Hare, Angel and Voit.

Claims 9-24, 22-25, and 34-38 are patentable over the cited art because they depend from one of claims 8, 21, and 33, which are patentable over the cited art for the reasons discussed above.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-33 are patentable. Should any additional fees be required beyond those paid, please charge Deposit Account No. 50-0585.

The attorney of record invites the Examiner to contact him at (310) 553-7977 if the Examiner believes such contact would advance the prosecution of the case.

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